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Feature Article - King Island wind farm

The Hydro-Electric Corporation is establishing a wind farm on King Island at a total cost of about \$2.5 million, a move which will further enhance Tasmania's image as a clean producer of electricity.

Following investigations over the past decade, there have been significant advances in wind power technology in recent years which have enabled the project to proceed.

A contract for the construction of Tasmania's first major commercial wind power project has been given to a Melbourne company, Sterling Wind Pty Ltd. Sterling Wind will supply and commission 3 Nordex 250 kW turbines on a site at Huxley Hill on King Island. The work is scheduled for completion early in 1998.

The Huxley Hill site is exposed to the prevailing westerly winds of the Roaring Forties. The average wind speed in the area of the wind farm is 26 km/h at 10 metres above ground level, and 33 km/h at 30 metres. By world standards these winds are excellent for wind generation. Wind turbines need a minimum wind speed to operate and must be shut down if the wind speed is too high.

Electricity generated by the wind turbines will be fed into King Island's 11 kV grid via surface transformers and underground cables connected to the existing power station. The wind turbines and the 4 1200 kW diesel generators in the existing power station will be centrally controlled to ensure that the power generated matches the electrical power demand on the grid.

To date, King Island's power needs have been supplied wholly through diesel generation. The Huxley Hill wind farm should generate up to 20% of the King Island community's power needs, resulting in savings of about \$500,000 in diesel fuel costs as well as reducing CO₂ emissions from the diesel generator by 2000 tonnes per year.

The wind farm has been designed to incorporate an additional 2 turbines as demand on the Island increases. It is being developed in an environmentally-sensitive way, with an extensive buffer zone around the site to minimise the impact of any noise and to protect the wind resource.

The King Island project will provide valuable experience for the HEC in the development of wind farms and integrated wind-diesel power systems.

Supporters believe that wind power has potential as another renewable energy source to supplement Tasmania's 2262 MW hydro-electric system.

With increasing pressure on the rest of Australia to conform to agreed world targets in reducing greenhouse gas emissions, Tasmania is unique with over 99% of its electricity generated using renewable sources. If the Basslink undersea power cable to Victoria is constructed, Tasmania will be well-placed to take advantage of demand for 'green' electricity.

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